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EXAMINER

BLACKWELL, GWENDOLYN ANNETTE

ART UNIT PAPER NUMBER

1775

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/829,419

Applicant(s)

MOELLE ET AL.

Examiner

Gwendolyn Blackwell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69, 76 and 77 is/are pending in the application.
- 4a) Of the above claim(s) 76 and 77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35, 37-43 and 46-68 is/are rejected.
- 7) ☒ Claim(s) 36, 44, 45 and 69 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of in the reply filed on August 2, 2006 is acknowledged. It is also acknowledged that claims 1-40, 42-58, and 60-69 are generic, having been examined in light of the elected species of a glass substrate.

Claim Objections

2. Claims 27-28 are objected to because of the following informalities:

In claims 27-28, line 2 of each claim, the word "function" does not seem the proper word for the claim. Should the word be "functional"? Appropriate correction is required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1, 4-26, 46-65, and 68 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/527,520. Although the conflicting claims are not identical, they are not patentably distinct from each other because the functional/protective layer of the present invention encompasses the protective layer of the copending application in view of the layer structure, the materials used for the layer and the thickness of the interlayer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1, 4-26, 46-65, and 68 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-37 of U.S. Patent no. 7,018,727. Although the conflicting claims are not identical, they are not patentably distinct from each other because the functional/protective layer of the present invention encompasses the protective layer of the patent claims in view of the layer structure, the materials used for the layer and the thickness of the interlayer.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3-13, 15-25, 43, 46-48, 52-58, and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 4,643,951, Keem et al.

Regarding claims 1, 46-48 and 52-53

Keem et al disclose a multilayered protective (functional) coating wherein each layer is about 50 angstroms (5 nm) thick with a bulk coating of less than 5000 angstroms (500 nm), (column 1, lines 40-65). Each layer can be crystalline, amorphous or independent of the other layers, (column 3, lines 24-45), meeting the limitations of claims 1, 46-48, and 52-53.

Regarding claims 3-13, 15-25, 43, 54-58, and 60

The protective coating can have layers formed therein having a columnar structure wherein the columns can be closely packed with the spacing varied as desired, (columns 6-7, lines 43-3), meeting the limitations of claims 3 and 54-55.

The layers can be comprised of elements, alloys, compounds of Ti and B, Ti and C, W and B, Mo and B, C, Al and O, Si and N, B and N, W and C, Ta and C, Ti and N, Zr and O and combinations thereof, (column 2, lines 47-64), meeting the limitations of claims 4-13, 15-25, 43, 56-58.

The phrase "is useable as a cooking plate for a cooking hob" is considered a statement of intended use. The intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Because the multilayered protective coating is used to hardness

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and wear resistance to any substrate, (column 9, lines 47-49), it would be expected that such a protective coating could be applied to a cooking plate to obtain the hardness and wear resistance meeting the limitations of claim 60.

8. Claims 1-2, 4-6, 8, 15-16, 18, 20-21, 26, 29-35, 37-40, 41-42, and 66-67 are rejected under 35 U.S.C. 102 (b) as anticipated by United States Patent no. 5,930,046, Solberg et al.

Regarding claim 1

Solberg et al disclose a low net stress multilayered film comprised of alternating films of high and low refractive index material. The high refractive index layer can be split in to sub-layers by an isolator (interlayer) material having a thickness of 1-2 nm, (column 9, lines 46-65), meeting the limitations of claim 1.

Regarding claims 2, 4-6, 8, 15-16, 18, 20-21, 26, 29-35, 37-40, 41-42, and 66-67

The thickness of the isolator layer is controlled in order to control the growth of crystal grains in the high refractive index layer, (column 10, lines 9-18), meeting the limitations of claim 2.

The high refractive index layer is comprise of zirconia and titania, with silica used as the isolator layer, (columns 4-5, lines 60-9; column 9, lines 46-65), meeting the limitations of claims 4-6, 8, 15-16, 18, 20-21, 26, 31-35, and 37-40.

Example 2 demonstrates a broadband reflecting short wavepass filter comprised of alternating layers of zirconia and silica wherein the zirconia layers were split into two sublayers with an isolator layer of silica placed therebetween having a thickness of 2 nm and a total partial layer thickness of 42 nm, (column 11, lines 11-56), meeting the limitations of claims 29-30, 42, and 66-67.

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The coating is placed on a glass substrate, (column 9, lines 8-18), meeting the limitations of claim 41.

9. Claims 1-2, 4-13, 16-25, 43, 46, 52-53, 56-60, and 68 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent no. 6,579,590, Ju et al.

Regarding claim 1-2, 43, 46, 52-53, and 68

Ju et al disclose a magnetic recording disk with a multilayered thermal barrier (functional/protective) wherein the thermal barrier layer is comprised of multiple bilayers of a dielectric material (interlayer) and a metal. The layers have a thickness in the range of 5-100 angstroms (.5-10 nm). When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed layer structure, the claimed physical properties relating the interruption of the morphology of the layers are inherently present in the prior art. As such, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record, meeting the limitations of claim 1-2, 43, 46, 52-53, and 68.

Regarding claims 4-13, 16-25, and 56-60

The dielectric layer can be comprised of oxides or nitrides of one or more of Al and Si, (column 3, lines 59-66), meeting the limitations of claims 4-13, 16-25, and 56-58.

The coating is formed on glass substrate, (column 3, line 22), meeting the limitations of claim 59.

The phrase "is useable as a cooking plate for a cooking hob" is considered a statement of intended use. The intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed

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invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Because the multilayered thermal barrier coating is used to control the heat going into an object it would be expected that such a thermal barrier coating could be applied to a cooking plate to obtain the same thermal control results, meeting the limitations of claim 60.

Claim Rejections - 35 USC §§ 102/103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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12. Claims 1-2, 4-10, 14-16, 18-22, 26-28, and 41-42 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over United States Patent no. 6,797,388, Szanyi et al.

Regarding claim 1

Szanyi et al disclose a coated article comprised of a substrate, a first coating (functional layer), a second coating (functional layer), and a breaker layer (interlayer) between the first and second coating, (column 3, lines 29-33). The breaker layer has a thickness of less than about 1000 angstroms (100 nm), more preferably about 100-600 angstroms (about 10-60 nm), (column 8, lines 27-43), meeting the limitations of claim 1.

In the alternative, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ 549.

Regarding claims 2, 4-10, 14-16, 18-22, 26-28, and 41-42

The interlayer is configured to prevent or at least reduce the epitaxial growth of the second coating by interrupting the morphology of the first and second coating, (column 3, lines 8-18), meeting the limitations of claims 2 and 26.

The first and second coating layers are made from oxides, (column 7, lines 33-63), meeting the limitations of claim 4.

The first coating can be comprised of one or more metal oxides, (column 7, lines 34-37), meeting the limitations of claim 5.

Zn, Al, Ce, Sn, Sb, Hf, Zr, Zn, Bi, Ti, Cr, Si, and alloys thereof can be used for the oxide metal material of the first coating, (column 7, lines 9-14), meeting the limitations of claims 6-10.

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Each of the first coating can be a solar control coating and the second coating can be a low emissivity coating, (column 12, lines 43-53), meeting the limitations of claim 14.

Example 1 demonstrates that the breaker layer has a chemical composition different from either of the coating layers, (column 13, lines 49-60), meeting the limitations of claim 15.

The interlayer of Example 1 is comprised of phosphorous containing tin oxide layer, (column 13, lines 50-54), meeting the limitations of claims 16 and 18.

Example II demonstrates that the interlayer is comprised of tin oxide and silica, (column 14, lines 5-8), meeting the limitations of claims 19-22.

In Example II the antimony doped tin oxide (functional) coating has a thickness of 1750 Å (175 nm), (column 14, lines 5-8), meeting the limitations of claims 27-28.

Glass is used as the substrate in Example II, (column 14, line 5), meeting the limitations of claim 41.

The low emissivity coatings reflect infrared (IR) energy, (column 1, lines 26-41). As the coated article can use a low emissivity coating, it would follow that a coated article comprised of a low emissivity coating would filter the IR wavelength region, meeting the limitations of claim 42.

Allowable Subject Matter

13. Claims 36, 44-45, and 69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

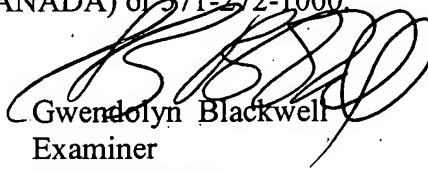
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gwendolyn Blackwell
Examiner
Art Unit 1775

gab